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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/756,922	01/13/2004	Daniel L. Gysling	CC-0699	3764

7590 03/31/2005

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EXAMINER

WEST, PAUL M

ART UNIT PAPER NUMBER

2856

DATE MAILED: 03/31/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/756,922	GYSLING, DANIEL L.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Paul M. West	2856	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. ____   |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>10-12-04</u> .  | 6) <input type="checkbox"/> Other: ____                                     |

### DETAILED ACTION

The disclosure is objected to because of the following informalities: The website on p. 2, line 9 is objected to because the material in that site is subject to change over time.

Appropriate correction is required.

Claims 5-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As to claim 5, where is "minimum" in the written specification? P. 8, lines 1-14 make reference to "lower" (line 13) frequencies, but does not clearly suggest a minimum. Is "minimum" correct?

As to claim 6, what does "/" mean? Does it mean -and--, --or--, or even a quotient? (Contrast with claim 7's "and/or".)

As to claim 7, "the frequency based sound speed" lacks antecedent basis. What "speed" in the claim does this phrase refer back to? In addition, what traits of the "dispersion model" (line 2) are required to define "dispersion"? What is the "dispersion model" actually limited to? It is noted that pages 14-15 include many steps and particulars for a determination, but it's unclear if this claim is limited to all of them. Also, as this claim is an "apparatus" claim, what structural (and/or means plus functional) limitations are to be attributed to the "wherein" clause?

As to claim 2, the word "of" (second occurrence, line 1) should read -in--.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3,6 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Cadet et al.

As to claims 1,3, Cadet et al teach (Fig. 5) an apparatus comprising: pair of UT transducers 80 disposed axially along a pipe (20,31), and a processor responsive to the "transit time" (col. 2, line 36), which provides an output indicative of a gas mixture composition.

As to claim 2, see col. 7, line 12-13.

As to claim 6, Cadet tests a vapor.

As to claim 7, the speed of sound is determined by calculation, as is done in most any model.

Claims 1-4,7 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Zacharias, Jr. et al.

As to claims 1,2,3,4,8, Zacharias, Jr. et al teach a probe (Figure 10) that has a pair of ultrasonic transducers disposed along radial axes of a pipe for measuring transit

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time, and a processor, responsive of the time, to provide an output indicative of the velocity of the mixture (col. 8, lines 35-45) flowing through the pipe.

As to claim 7, the speed of sound is determined by calculation, as is done in most any model.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1,2,3,8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brown.

Brown teaches (Figure) axially aligned transducers 24,26 in a sing-around circuit to measure flow of a liquid, but not clearly a mixture.

As to claims 1,2,3,8 while Brown's reference to "chemical variables" (col. 1, line 58) seems to imply a mixture, it would have been obvious to employ Brown's sensor for flowing mixtures as Brown teaches that his sensor may be successfully be employed for any "small diameter" (col. 1, line 8) conduits.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Douglas teaches testing a mixture passing through a pipe with axially positioned UT sensors.

Gysling et al employ a « sing around” (col. 3, lines 5-6) circuit.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul West whose telephone number is 571-272-2204. The examiner can normally be reached on Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams, can be reached on 571-272-2208. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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